### January 10, 2002

Mr. William T. Cottle
President and Chief Executive Officer
STP Nuclear Operating Company
South Texas Project Electric
Generating Station
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS

ON EXTENSION OF EMERGENCY CORE COOLING SYSTEM ALLOWABLE

OUTAGE TIME (TAC NOS. MB2001 AND MB2002)

Dear Mr. Cottle:

The Commission has issued the enclosed Amendment No. 135 to Facility Operating License No. NPF-76 and Amendment No. 124 to Facility Operating License No. NPF-80 for the South Texas Project, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated May 9, 2001.

The amendments revise the TSs for emergency core cooling system accumulators and applicable Bases, reflecting relaxation of the allowable outage time from 12 hours to 24 hours, for restoring an inoperable accumulator (for reasons other than the boron concentration requirements) to operable status.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Mohan C. Thadani, Senior Project Manager, Section 1 Project Directorate IV Division of Licensing Project Management Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosures: 1. Amendment No. 135 to NPF-76

2. Amendment No. 124 to NPF-80

3. Safety Evaluation

cc w/encls: See next page

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\*SEs input dated 08/29/01 and 11/01/01, no significant changes made

ACCESSION NO: ML013230185

OFFICE	PDIV-1/LPM	PDIV-1/LA	SPSB/BC*	SRXB/BC*	RTSB/BC	OGC/NLO**	PDIV-1/SC
NAME	MThadani	MMcAllister	RBarrett	JWermiel	RDennig for WBeckner	MO'Neill	RGramm
DATE	12/08/01	11/29/01	08/29/01	11/01/01	01/08/02	12/05/01	01/09/02

<sup>\*\*</sup>No legal objection, subject to OGC comments

# STP NUCLEAR OPERATING COMPANY

### **DOCKET NO. 50-498**

### SOUTH TEXAS PROJECT, UNIT 1

### AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 135 License No. NPF-76

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by STP Nuclear Operating Company\* acting on behalf of itself and for Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and the City of Austin, Texas (COA) (the licensees), dated May 9, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

<sup>\*</sup>STP Nuclear Operating Company is authorized to act for Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio, Central Power and Light Company, and the City of Austin, Texas, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

- 2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-76 is hereby amended to read as follows:
  - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 135 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The South Texas Project Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical

Specifications

Date of Issuance: January 10, 2002

# STP NUCLEAR OPERATING COMPANY

### **DOCKET NO. 50-499**

### **SOUTH TEXAS PROJECT, UNIT 2**

### AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 124 License No. NPF-80

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by STP Nuclear Operating Company\* acting on behalf of itself and for Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and the City of Austin, Texas (COA) (the licensees), dated May 9, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

<sup>\*</sup>STP Nuclear Operating Company is authorized to act for Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio, Central Power and Light Company, and the City of Austin, Texas, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

- 2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-80 is hereby amended to read as follows:
  - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 124 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The South Texas Project Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical

Specifications

Date of Issuance: January 10, 2001

### ATTACHMENT TO LICENSE AMENDMENT NOS. 135 AND 124

## FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

### DOCKET NOS. 50-498 AND 50-499

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	<u>INSERT</u>
3/4 3-36	3/4 3-36
3/4 5-1	3/4 5-1
3/4 5-2	3/4 5-2
B 3/4 5-1	B 3/4 5-1
B 3/4 5-2	B 3/4 5-2
B 3/4 5-3	B 3/4 5-3

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# RELATED TO AMENDMENT NOS. 135 AND 124 TO

# FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

### STP NUCLEAR OPERATING COMPANY, ET AL.

### SOUTH TEXAS PROJECT, UNITS 1 AND 2

DOCKET NOS. 50-498 AND 50-499

### 1.0 <u>INTRODUCTION</u>

By letter dated May 9, 2001 (Ref. 1), South Texas Project Nuclear Operating Company, the licensee, requested changes to the Technical Specifications (TSs) of the South Texas Project (STP) Facility Operating License Nos. NPF-76 and NPF-80. The proposed changes would revise TS 3/4.5.1, "Emergency Core Cooling Systems - Accumulators," and the applicable Bases. Specifically, the allowed outage time (AOT) or completion time for ACTION a (to restore an inoperable accumulator, if inoperable for reason other than the boron concentration outside of the requirements), would be changed to 24 hours instead of the current time of 12 hours. This proposal is based on the methodology described in Topical Report WCAP-15049-A, "Risk-Informed Evaluation of an Extension to Accumulator Completion Times" (Ref. 2).

In addition to the AOT extension, the licensee submitted other changes to TS 3/4.5.1 to make it consistent with the Improved Standard Technical Specifications (ISTS). These changes are discussed in Section 2.3, "Technical Specification Changes."

### 2.0 EVALUATION

The NRC staff evaluated the licensee's proposed amendment to the TS using traditional engineering analysis and probabilistic methods used in its review of Topical Report WCAP-15049-A. The NRC staff used traditional engineering analysis methods and probabilistic analysis methods to evaluate the proposed amendment to the TS and the supporting Topical Report WCAP-15049-A. The results of these evaluations were used in combination by the NRC staff to determine the safety impact of extending the Completion Time for one inoperable ECCS accumulator (i.e., inoperable for reasons other than boron concentration).

The licensee's submittal indicates that the safety analysis acceptance criteria in the Updated Final Safety Analysis Report (UFSAR) continue to be met. The proposed changes do not affect any assumptions or inputs to the safety analyses. The difference in the current TS versus the proposed extension lies in the added risk due to the extension of the AOT.

The NRC staff's deterministic evaluation, probabilistic evaluation, and evaluation of TS changes follows.

#### 2.1 Deterministic Evaluation

The purpose of the ECCS accumulators is to supply water to the reactor vessel during the blowdown phase of a loss-of-coolant accident (LOCA). The accumulators are large volume tanks, filled with borated water and pressurized with nitrogen. The cover-gas pressure is less than that of the reactor coolant system (RCS) so that when the RCS pressure decreases below the tank pressure, the accumulators inject borated water into the RCS cold legs.

Currently, the TS allows for one of the three accumulators to be inoperable for 12 hours (for reasons other than boron concentration not within limits) during Modes 1 and 2, and in Mode 3 with pressurizer pressure greater than 1000 psig. With one accumulator inoperable, the remaining two accumulators will be available to mitigate the consequences of a LOCA. The licensee is requesting to increase the AOT for one accumulator from 12 hours to 24 hours. Since the duration of the TS AOT is not an input into the safety analysis (i.e., the safety analysis assumes that all of the accumulators are operable), the extension of the AOT to 24 hours has no impact on the safety analysis.

#### 2.2 Probabilistic Consideration

As stated above, the primary change to TS 3.5.1 is the Completion Time extension for an inoperable ECCS accumulator. The licensee indicates that implementation of this extension will relax an unnecessarily restrictive completion time for the accumulators and replace it with a time that provides a more reasonable opportunity to respond to the condition. The licensee's request was based on the probabilistic assessment provided in the Westinghouse Topical Report, WCAP-15049-A, "Risk-Informed Evaluation of an Extension to Accumulator Completion Times" (Ref. 2).

The NRC staff review of WCAP-15049-A concluded that the risk analysis performed in support of the change for "all Westinghouse plants" was comprehensive and reasonable, and that the proposed change would result in a small risk increase, as defined in risk-informed Regulatory Guides (RGs) 1.174 (Ref. 3) and 1.177 (Ref. 4). The risks evaluated in the WCAP include changes in core damage frequency and large early release frequency. The changes calculated meet the intent of the guidance in the RGs 1.174 and 1.177. The core damage frequency (CDF) calculated for STP is 1.2x10<sup>-5</sup> per year for at-power events, which is below the CDF guideline in RG 1.177. The licensee reported that the resulting incremental conditional core damage probability from the TS changes is 3.5x10<sup>-7</sup> per year, which is less than the allowable guidance value 5.0x10<sup>-7</sup> per year. The licensee did not address the incremental conditional large early release probability for STP. Failure to address is not a problem, because the impact of large early release is represented by the impact on core damage frequency. The NRC staff finds that the licensee's reported results are acceptable, as they fall within the guidelines provided in the RGs 1.174 and 1.177.

The licensee provided an evaluation that demonstrated the applicability of the topical report to STP Units 1 and 2 by comparing key parameters and assumptions used in both the STP Units 1 and 2 evaluation and the WCAP evaluation. The NRC staff finds that the WCAP evaluation envelops or is comparable to the STP Units 1 and 2 evaluation.

Based on the above, the NRC staff concludes that the risk insights and findings support the deterministic evaluation that the extension of accumulator AOT to 24 hours has no impact on the safety analysis. Therefore, the requested changes are acceptable.

### 2.3 Technical Specification Changes

The NRC staff's evaluation of the specific changes to the TS is as follows:

The TS 3.5.1 ACTION (a) is proposed to be modified to extend the AOT for an ECCS accumulator from 12 hours to 24 hours. The NRC staff evaluated this change as discussed above and finds the proposed change acceptable.

The TS 3.5.1 ACTION (a) is proposed to be revised to make it applicable to situations with closed isolation valves. Additionally, ACTION (b), which applies to closed isolation valves, was deleted. The licensee proposed these modifications to be consistent with the ISTS and WCAP-15049-A. Since the AOT for both ACTION (a) and (b) are identical, there is no technical reason to differentiate ACTIONS (a) and (b). Therefore, the NRC staff finds these changes acceptable.

The limiting condition for operation (LCO) 3.5.1.a is proposed to be removed from TS. This LCO section required that the isolation valves for the accumulators be open and power be removed. These actions ensure that the isolation valves will not fail closed. Otherwise, a single active failure of an isolation valve closing could disable an accumulator when needed for injection. Because Surveillance Requirements (SR) 4.5.1.1.a.2 and 4.5.1.1.c both address this requirement, the LCO is redundant, and its removal is consistent with the ISTS. This TS change has no impact on plant safety; therefore, the NRC staff finds this change acceptable.

The LCO 3.5.1.b is proposed to be moved to SR 4.5.1.1a.1. This LCO section required that the borated water volume be between 8800 and 9100 gallons. The relocation of the previous LCO to SR 4.5.1.1a.1 is consistent with the ISTS. This revision is an administrative change and has no impact on plant safety; therefore, the NRC staff finds this change acceptable.

The LCO 3.5.1.c is proposed to be moved to SR 4.5.1.1b. This LCO section required that the boron concentration in the accumulators be between 2700 and 3000 ppm. The relocation of the previous LCO to SR 4.5.1.1b is consistent with the ISTS. This revision is an administrative change and has no impact on plant safety; therefore, the NRC staff finds the change acceptable.

The LCO 3.5.1.d is proposed to be moved to SR 4.5.1.1a.1. This LCO section required that the nitrogen cover pressure be between 590 and 670 psig. The relocation of the previous LCO to SR 4.5.1.1a.1 is consistent with the ISTS. This revision is an administrative change and has no impact on plant safety; therefore, the NRC staff finds the change acceptable.

The TS 3.5.1 APPLICABILITY and associated footnote are proposed to be modified. The footnote, which states that the LCO is applicable in Mode 3 when the pressurizer pressure is above 1000 psig, was incorporated into the APPLICABILITY section. This change is administrative and is consistent with the ISTS. Because this change has no impact on plant safety, the NRC staff finds it acceptable.

The SR 4.5.1.1.b is proposed to be modified with the addition of a footnote. The footnote clarifies that in the case of a solution volume increase of 1 percent or greater, the 6 hour SR is only required for the affected accumulators. This clarification ensures that the surveillance is applied only to the affected accumulators and is consistent with the ISTS. Because this modification has no impact on plant safety, the NRC staff finds it acceptable.

The SR 4.5.1.1.b is proposed to be modified to exclude the applicability to changes in accumulator volume from the Refueling Water Storage Tank (RWST). The RWST boron concentration is governed by TS 3/4.5.5 "Refueling Water Storage Tank," and its boron concentration values of between 2700 and 3000 ppm are within the acceptable range of the accumulators. Because the boron concentration values are already governed by the RWST TS, and the range of boron concentration is within the required accumulator values, the surveillance of the concentration values upon accumulator fill from the RWST is not necessary. This change is also consistent with the ISTS, and the NRC staff finds it acceptable.

The SR 4.5.1.1.d is proposed to be deleted. This surveillance required confirmation that the isolation valves will open when the RCS pressure exceeds the P-11 setpoint or upon receipt of a safety injection signal. For power operation, SR 4.5.1.1a.2 and SR 4.5.1.1c require the licensee to verify that the isolation valves are open and power is removed. Removing power prevents the isolation valves from failing closed, which ensures that the accumulators will be available for injection. Also, the safety analysis does not require the isolation valves to move during power operation or post-accident situations, and the change is consistent with the ISTS. Therefore, the NRC staff finds the deletion of this surveillance requirement to be acceptable.

The SR 4.5.1.2 requires that the accumulator pressure and water level channels be demonstrated operable by testing and calibration. The licensee proposes to delete SR 4.5.1.2. The purpose of this requirement is to ensure that the pressure and water level within the accumulators are accurate to maintain accumulator operability. However, TS 3/4.5.1 specifically requires that the accumulators be operable. It also has specific SRs that require the nitrogen cover-pressure and borated water volume in the accumulators to be acceptable. These TS requirements effectively encompass the requirements of SR 4.5.1.2. Therefore, the SR 4.5.1.2 is not necessary to ensure accumulator operability. The NRC staff finds the deletion of this surveillance requirement to be acceptable. This change is also consistent with the ISTS.

The licensee proposes to delete page 3/4 5-2 and label it "not used," and modify TS Bases Section 3/4.5.1 ("Accumulators") to bring the discussion into agreement with the ISTS. These changes are editorial and have no effect on plant safety.

Based on the above review, the NRC staff finds that the supporting analysis was performed with an NRC-approved methodology, and the proposed changes do not affect the UFSAR safety analyses. Therefore, the NRC staff concludes that the AOT extension and the associated TS changes are acceptable. The NRC staff also finds that the proposed TS

changes not associated with the AOT extension do not impact plant safety, are consistent with the ISTS, and therefore are acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (66 FR 44176 dated August 22, 2001). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

### 5.0 <u>CONCLUSION</u>

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

### 6.0 REFERENCES

- Letter from J. J. Sheppard, South Texas Project Nuclear Operating Company, to USNRC, "South Texas Project Units 1 and 2, Docket Nos. STN 50-498, STN 50-499, Proposed Change to Technical Specification 3/4.5.1, Accumulators," dated May 9, 2001.
- 2. Westinghouse WCAP-15049-A, Rev. 1, "Risk-Informed Evaluation of an Extension to Accumulator Completion Times," dated April 1999.
- 3. NRC Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," dated July 1998.
- 4. NRC Regulatory Guide 1.177, "An Approach for Plant Specific, Risk-Informed Decision-making: Technical Specifications," dated August 1998.

Principal Contributors: G. Kelly

S. Peters

Date: January 10, 2002

### South Texas, Units 1 & 2

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